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求解热传导反问题的一种正则化Newton型迭代法

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摘要: 讨论热传导方程求解系数的一个反问题. 把问题归结为一个非线性不适定的算子方程后, 考虑该方程的Newton型迭代方法. 对线性化后的Newton方程用隐式迭代法求解, 关键的一步是引入了一种新的更合理的确定(内)迭代步数的后验准则. 对新方法及对照的Tikhonov方法和Bakushiskii方法进行了数值实验, 结果显示了新方法具有明显的优越性.

关键词: 反问题; 非线性不适定算子方程; Newton型方法; 隐式迭代法; 迭代终止准则

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